

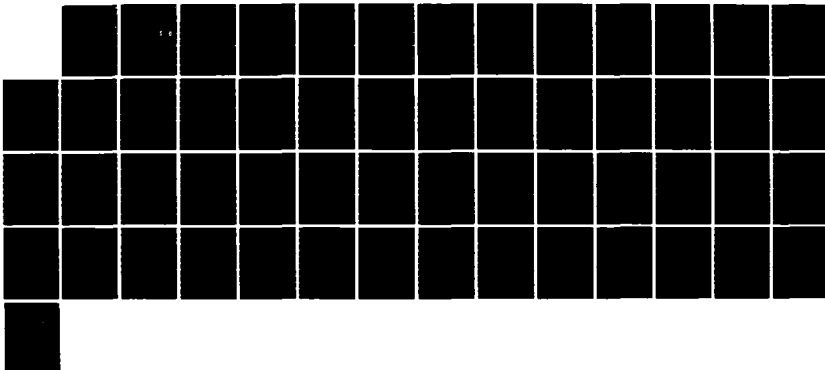
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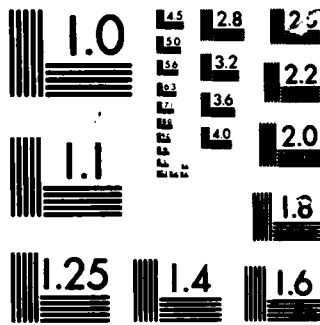
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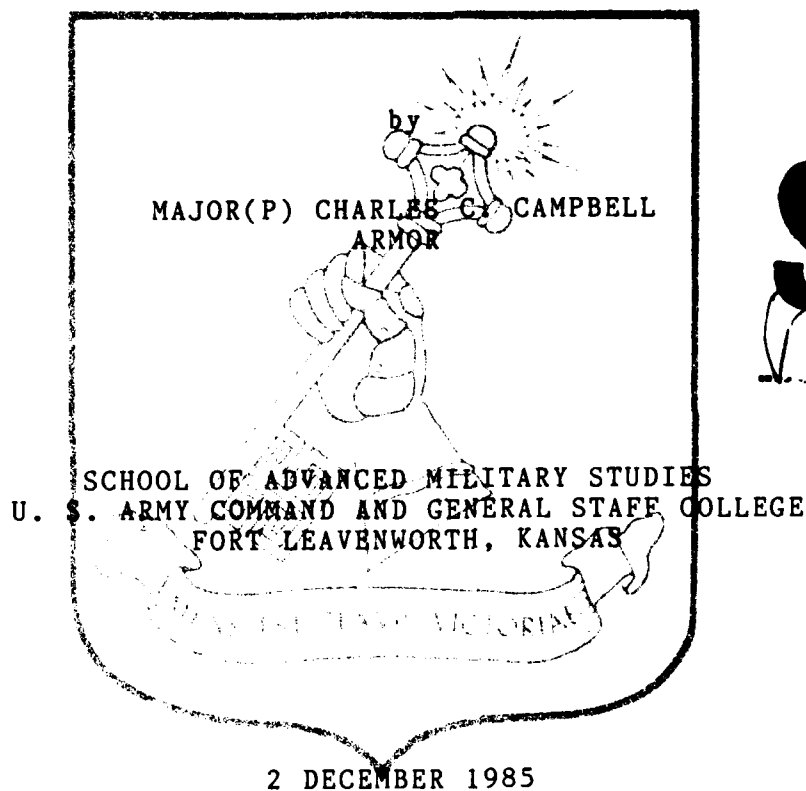
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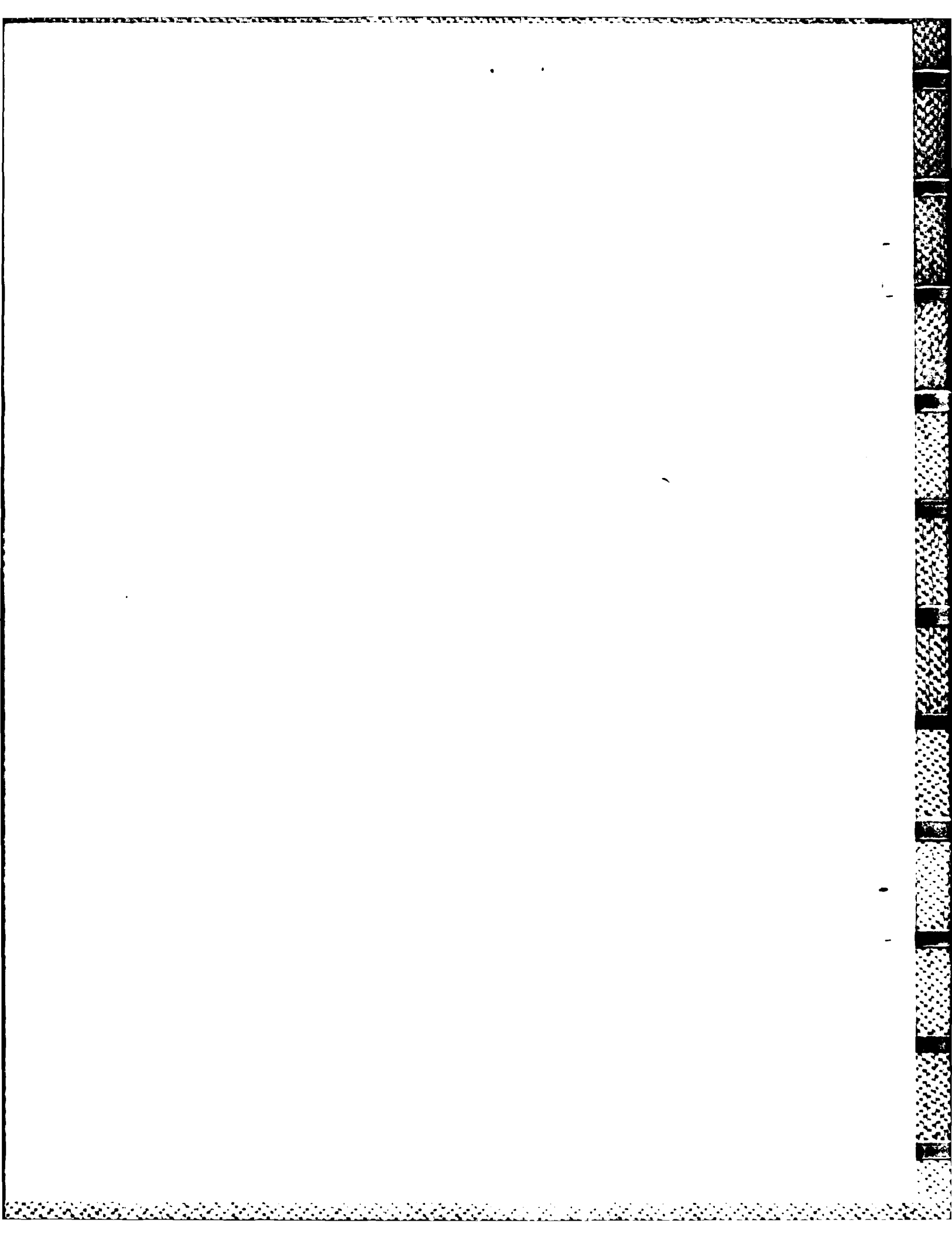


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**LIGHT INFANTRY AND THE HEAVY FORCE:
A MARRIAGE OF CONVENIENCE OR NECESSITY**

by

**MAJOR(P) CHARLES C. CAMPBELL
ARMOR**

**SCHOOL OF ADVANCED MILITARY STUDIES
U. S. ARMY COMMAND AND GENERAL STAFF COLLEGE
FORT LEAVENWORTH, KANSAS**

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Approved by:

John S. Fulton, Seminar Leader
Lieutenant Colonel John S. Fulton, M.A.

Richard H. Sinnreich, Director, School of
Colonel Richard H. Sinnreich, M.A. Advanced Military Studies

Philip J. Brookes, Director, Graduate Degree
Philip J. Brookes, Ph.D. Programs

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ABSTRACT

LIGHT INFANTRY AND THE HEAVY FORCE: A MARRIAGE OF CONVENIENCE OR NECESSITY: by Major (P) Charles C. Campbell, United States Army, 46 pages.

This study examines the utility of augmenting heavy forces committed in the forward defense of Central Europe with strategically mobile light forces. The study examines the historical precedents for the employment of light infantry forces against technologically superior heavy forces. Drawing from these experiences, the study identifies the methods, tactics, and techniques that were common to light infantry operations that were successful in the past. The study then assesses the utility and survivability of light infantry forces on the contemporary battlefield and examines the degree to which the successful operating styles of the past remain valid.

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I. INTRODUCTION

Problem Statement

An examination of the armament and organization of U. S. forces deployed in Central Europe reveals that the force is presently configured and equipped to conduct long-range operations in open terrain. The American force structure in Central Europe is further characterized by an alarming shortage of infantrymen. The combination of these factors suggest that heavy forces forward deployed in Germany have a limited ability to conduct operations in restricted terrain. It is therefore reasonable to presume that there would be utility in augmenting European-based heavy forces with strategically mobile light forces.

The purpose of this study is to examine the utility of augmenting heavy forces committed in the forward defense of Central Europe with strategically mobile light forces. The study will examine the historical precedents for the employment of light infantry forces against technologically superior heavy forces. Drawing from these experiences, the study will identify those methods, tactics, and techniques that have been common to successful light infantry operations in the past. The study will then assess the utility and survivability of light infantry forces in the contemporary European battlefield, and examine the degree to which the successful operating styles of the past remain valid. The study will also examine various ways light infantry forces can be employed by heavy forces and the

tactics they can use to successfully counter armored/mechanized formations. The study will conclude with the assessment that light infantry forces, when committed in the right situations and with a requisite degree of skill, can greatly magnify the combat capability of heavy forces defending in Central Europe.

Light Infantry Azimuth

The light infantry division was introduced into the U. S. Army force structure to provide an immediate and credible capability to conduct combat operations in contingency areas outside of Europe. In a 1985 article appearing in Army magazine, the Chief of Staff of the U. S. Army, General John A. Wickham, indicated that the light infantry division was developed in response to the Army's need for a light, flexible and easily deployable force that could deter or be committed to control lower intensity conflicts.¹ He further acknowledged that the light division would generally be employed in underdeveloped theaters and contingency areas at the lower end of the "spectrum of conflict." However, he also suggested that light forces must be robust and adaptable enough to be survivable and useful when employed in a mid-to-high-intensity scenario.²

Consistent with General Wickham's view of the light infantry division as a force that can be committed to meet any challenge along the whole range of conflict, FC 71-101,

Light Infantry Division Operations acknowledges the likelihood that light forces may have to fight on a sophisticated battlefield against well-equipped heavy forces.³ Though recognizably the least likely of the many missions the light infantry division may be called upon to execute, the requirement for light forces to reinforce forward deployed forces becomes very probable in the event of hostilities in Europe. Should hostilities break out, the commitment of light infantry units to reinforce heavy forces may prove prudent because of the terrain variations and urban sprawl that are characteristic of Central Europe and the scarcity of infantrymen in the Army's current European-based force structure. The notion of reinforcing European-based forces with strategic light forces becomes all the more clear when one considers the fragility of NATO's "forward defense" and its fundamental dependence upon rapid reinforcement. It is the opinion of many military observers that the time available for such reinforcement will be very short. As a result, strategically deployable light forces may represent the only viable alternative for redressing the imbalance of forces projected during the period immediately following the outbreak of hostilities but prior to the arrival of heavy non-REFORGER reinforcing units.

The Operational Environment

U. S. forces currently in Europe are equipped and organized in such a way that they are poorly suited to conduct combat operations over much of the Central European battlefield.⁴ The armored and mechanized divisions which dominate the U. S. force structure are designed to execute highly mobile operations in open terrain against similarly equipped formations. These divisions are poorly suited for operations in the forested areas and urbanized terrain that increasingly characterize the Central European battlefield.

Terrain

Forests and built-up areas have been estimated to cover almost sixty percent of the German terrain.⁵ Moreover, because of the spatial distribution of populated areas, an attacking force is generally unable to bypass one village without almost immediately encountering another.⁶ Even along the Fulda Gap, the Meiningen Approach, and the Hof Corridor, the historic invasion routes leading into the sectors of the two U. S. forward deployed corps, the terrain is characterized by the presence of numerous forested areas, villages, and small towns. Additionally, it is typical in Central Europe for open areas to be surrounded by covered areas that restrict lines of sight and fields of fire. It

has been estimated that more than forty percent and perhaps as much as fifty percent of German terrain comprises areas with very short lines of sight and correspondingly short combat ranges.⁷ An investigation by the military geographical office of the Bundeswehr (German Army) revealed that fifty-five percent of all line of sight distances in the Federal Republic of Germany would be less than 500 meters.⁸ The forested areas and urban terrain that increasingly characterize the Central European battlefield substantially degrade the mobility of mechanized forces and decisively limit the capabilities of their long-range weapons.

Force Structure

There is an alarming shortage of infantrymen in the current force structure. This further compounds the degradation in mobility and firepower that heavy forces experience when committed to restricted terrain. The need for additional infantrymen on the European battlefield is being acknowledged by an ever increasing number of commanders and former commanders of European formations. German Bundeswehr Major General Franz Uhle-Wettler in his book Gefechts Mitteleuropa (Battlefield Central Europe) calls for additional light forces in the European force structure.⁹ He does not stand alone in his belief that additional infantrymen are required. General William Depuy,

a long-time advocate of light infantry forces and former commander of TRADOC, writing in Army magazine in 1985, indicated that General Frederick J. Krosen, when serving first as VII Corps Commander and later as the Central Army Group Commander, wanted more infantry in the force structure and saw needs for it almost everywhere.¹⁰ At the tactical level, LTG Howard G. Crowell, as the commander of the 3d Infantry Division from 1983 to 1985 expressed concerns about the shortage of infantrymen in the mechanized division TO&E. Writing in the Infantry Journal in 1984, LTG Crowell contended that the Division 86 Heavy Division needed more foot soldiers, citing the fact that a mechanized infantry division with five infantry battalions and more than 16,000 personnel has only slightly more than 1,000 soldiers able to conduct dismounted infantry operations.¹¹ He further argued that a strategically mobile light force could provide those soldiers.

Given the scarcity of infantrymen in the current mechanized division TO&E, it is unlikely that heavy forces possess enough infantrymen to defend in restricted terrain in sufficient strength to deter Soviet forces from attacking there. The inability of heavy forces to defend adequately in restricted terrain calls into question the viability of a linearly disposed forward defense keyed to open approaches. Though it is acknowledged that Soviet armored/mechanized formations may seek in principle to avoid wooded areas

because they constitute momentum diminishing and firepower attenuating terrain, it is also recognized that they will exploit wooded areas if given an opportunity. If a defending force chooses to leave the wooded flanks of vehicular approaches unguarded or weakly held, then it is likely that Soviet formations will seek to exploit those wooded areas to by-pass and cut off the forces holding the open approaches.

The imperatives of terrain in Central Europe, our current force structure, and a generally accepted belief that an attacking enemy will avoid restricted terrain, lend credence to the notion that the Soviet forces would be well served to attack through broken terrain. History is, of course, replete with examples of forces attacking successfully through "impassable" terrain. Hienz Guderian, the noted World War II Panzer leader and outspoken advocate of armored warfare, demonstrated rather conclusively in 1940, that the forested, rugged terrain of the Ardennes did not deter the attack of large mechanized formations. The lesson is clear; any terrain is passable for mechanized forces provided that the terrain is insufficiently defended. It is a lesson that the Soviet army, no neophyte to armored warfare, has most assuredly learned. It is therefore probable that enemy formations, when contained in open areas by heavy forces, may find it advantageous to seek less

favorable terrain that is either not defended or defended inadequately.

Considerations of force structure and doctrine notwithstanding, the distinctive geography of Germany mandates that combat in Central Europe will unavoidably include combat in built-up areas, forests, and mountainous terrain. Because long-range, flat trajectory weapons and anti-tank guided missiles cannot utilize their full ranges in cities, forests, industrial areas, and mountainous terrain, it would appear that properly equipped light forces would have great utility on the Central European battlefield. Further, the factors of METT-T (Mission, Enemy, Terrain, Troops available, and Time) seem to strongly suggest that the combat capability of heavy forces can be significantly enhanced by augmenting them with strategically mobile light forces. If such is the case, it then is a matter of determining how these forces can best be utilized.

II. A HISTORICAL PERSPECTIVE

U. S. Light Divisions in World War II

The notion of reinforcing forward deployed heavy forces with strategically mobile light forces is not new. Between 1942 and 1944, the U. S. Army created three "light" divisions.¹² These divisions were developed, in large part, as a means for responding to the operational requirements to

increase the number of combat troops being sent overseas. The intent was to design a light division that had a reduced requirement for shipping space and therefore would be more easily deployable than the standard infantry division. As a result, the light division was designed to be smaller, possess fewer men, and have less heavy equipment than the standard infantry division.¹³

The tactical role of the light division was never clearly defined. However, it was generally believed that the light division would have utility in rugged, inaccessible terrain where the greater firepower and mobility of the standard infantry division might be misapplied. The early proponents of the light division foresaw that it would be employed to conduct jungle operations in the Pacific theater. This notion was later expanded to include a full range of missions encompassing amphibious, mountain, and airborne operations.¹⁴

^{None of} Of the three experimental light divisions that were formed, ~~none~~ were actually employed in combat. In his historical examination of the U. S. Army light divisions in World War II, Edward Luttwak cites two main reasons for the abandonment of the light division concept. The first he attributes to General George C. Marshall, U. S. Army Chief of Staff. Luttwak contends that General Marshall refused to send light divisions overseas without the consent of the theater commanders who would actually have to use those

units in combat.¹⁵ Despite initial interest, the theater commanders, with the exception of Lieutenant General Joseph Stillwell of the China-Burma-India theater, rejected the light division as organized.¹⁶ As a result, General Marshall never approved the overseas deployment of the light divisions. The second reason, according to Luttwak, was the performance of the light divisions during field maneuvers at the Hunter Liggett Military Reservation in 1944. These tests revealed that the light division had a limited ability to operate cross-country, had difficulty conducting sustaining operations, lacked firepower, and was woefully deficient in the conduct of reconnaissance activities.¹⁷ For these and other reasons, it was generally concluded that the light divisions had limited utility and should be converted to standard infantry divisions. This reorganization was approved by General Marshall and was accomplished soon after the Hunter Liggett maneuvers.

As events were to unfold, two of the three divisions were subsequently to see action in the European theater as standard infantry divisions. The third division was reorganized as a mountain division. This division was officially known as the 10th Light Division (Alpine). Though intended as a high-mountain force, the 10th Light Division never experienced Alpine combat. Nonetheless, it distinguished itself in a number of actions during the Italian campaign and was universally acknowledged as one of

the better divisions fielded by the U. S. Army during the Second World War.

The 10th Light Division (Alpine) is perhaps the most valuable U. S. example of a specialized unit that was effectively employed as light infantry during World War II. Edward Luttwak, in his historical analysis of the 10th Mountain Division, attributes the tremendous success of the division to a variety of factors. Though acknowledging that organization, equipment, and specialized tactics were important, he argues that of greater significance were the qualitative factors that distinguished this division from others in the American Army. He attributes the successes of the 10th Mountain Division to four main factors. First, he contends that the division's leadership at all levels was of an exceptionally high caliber. Second, he maintains that the division's troops were of an extraordinarily high quality both in terms of innate intelligence and physical aptitude. This, according to Luttwak, was the result of the division's selective recruiting practices and the physical rigor of the division's training program. Third, Luttwak contends that the division achieved levels of unit cohesion and identification that were unequalled by other American divisions. He attributes this to the fact that the division was composed largely of volunteers and to the fact that the division did not experience the considerable personnel turbulence that was typical of most U. S. divisions.

Lastly, Luttwak believes that the division's success was linked to its distinctive tactics. These tactics placed a premium on decentralized execution, aggressiveness at the small unit level, and offensive action. By stressing individual action and aggressive tactics at the lowest levels, Luttwak contends that units within the division were able to operate semi-independently and achieve high levels of mobility in terrain that other American units considered inaccessible.¹⁸

Mr. Luttwak's historical analysis of the U. S. Army's World War II experience with light divisions has major implications for the manner in which contemporary light divisions are created and employed. He argues very persuasively that the failure of the light infantry division concept during World War II was the product of several basic problems. First, he contends that logistical considerations of deployability tended to govern the armament and organization of the light division to the exclusion of tactical considerations. Secondly, he suggests that once the light divisions were formed, little thought was given to their tactical employment. Lastly, he contends that there were no workable means for adjusting the organizational structure of the light division or revising its methods of tactical employment based on practical lessons acquired in combat or in maneuvers.¹⁹

The lessons learned during World War II with regard to the creation and employment of light forces, suggests that the Army community would be well served to examine very closely the utility of committing light, rapidly deployable forces to Central Europe. Further, it suggests that it is important for the Army to examine the environment within which that commitment will take place, and explore the methods by which light forces can be most effectively employed.

German Mountain-Infantry in World War II

Though the American experience with light infantry forces in World War II is instructive, the German experience with light forces during the war may have much greater contemporary application. Throughout the war the German Army employed specialized light forces in a variety of ways. Of these, perhaps the most instructive in terms of contemporary application is the manner in which it employed its mountain divisions. These divisions were employed in a variety of environments under a wide range of conditions. Though their organizational structure differed, they all shared a commonality in their elite quality, their high levels of unit cohesion and their superior ability to conduct operations in difficult terrain. Throughout the war they clearly demonstrated their combat value, both as specialized infantry and as conventional light infantry.

The distinctive success of the German mountain divisions can be linked not only to their armament, organization, and specialized training, but also to the uniqueness of their operational "mind set." There was a "mind set" which sought to minimize dependence on heavy firepower while placing a premium on the avoidance of the effects of enemy fires by dispersion and illusiveness. Further, it was a "mind set" that was characterized by an emphasis on maintaining a high offensive potential by exploiting agility in all its forms.²⁰

The German mountain divisions came into being largely as a result of the personal interest that Adolph Hitler had in mountain warfare. This was an interest not shared by the largely Prussian general staff which was typically closed-minded towards mountain warfare. Nonetheless, the inevitability of employing forces in mountainous terrain attendant to German advances into the Caucasus as well as the demonstratable need to secure the southern flank of the "Reich" in the Alpine regions of Bavaria, Austria, and northern Italy mandated that mountain divisions be formed. As events were to unfold, these divisions were to acquit themselves extremely well in campaigns on both the Russian and Italian fronts. The mountain division, in fact, was considered the best formation for deployment in all forms of close terrain. This included mountainous terrain, forested areas, and marshes.

Largely as a result of the requirement to operate in close terrain, the mountain divisions developed a distinctive operating style. This style was characterized by a focus on independent actions at the small-unit level. Leaders at every tactical level were expected to be capable of conducting decentralized combat operations within the scope of the "commander's intent." They were also routinely expected to demonstrate tactical initiative, aggressiveness at the small-unit level, and a predilection for offensive action.

The requirement to conduct decentralized operations in difficult terrain also influenced the organizational structure of the mountain divisions. Heavy weapons, for example, were generally found at a lower level in mountain units than was typical of standard infantry units.²¹ Like all German infantry units, the force structure of mountain units was mortar and machinegun intensive. In the case of German mountain units however, these weapons were relied upon to provide suppressive fires in lieu of artillery which generally proved too cumbersome and too operationally limited to be effectively employed in heavily compartmented, mountainous terrain.

Tactically, mountain infantry units relied on dispersion, concealment, and foot maneuver to minimize the effects of enemy artillery fires. Further, they relied on the complementary actions of static and mobile forces to

produce tactical successes at the small-unit level. The defense was characterized by the habitual use of positions cited on the reverse slope; by mutually supporting positions established in depth to provide flanking crossfires from unexpected directions at unexpected times; and concealed reserves capable of conducting counterattacks quickly and violently.²² The defense was generally oriented on blocking vehicular approaches and applying combat power to the enemy's flanks. Combat power was applied by aggressively ambushing exposed enemy flanks and by the opportunistic counterflanking of enemy flanking action. Great emphasis was therefore placed on surveillance, reconnaissance, and the responsive shifting of reserves, generally at the small unit level.

The attack was characterized by an emphasis on prior reconnaissance and an adherence to standard troop leading procedures. The intent was for security forces to find gaps, flanks, and covered approaches in the enemy's defenses. These would be exploited by the main force which would seek to flank, envelop, or turn defending units. Frontal attacks were disdained and generally avoided. Infiltration by small units was the favored tactic. This tactic, of course, could take many forms. Basically, however, it consisted of employing machineguns and mortars to suppress enemy positions and focus enemy attention to the

front while foot mobile forces infiltrated to the flank and/or rear of enemy positions.

That the mountain-infantry approach to warfare as practiced by German mountain divisions during World War II has direct and contemporary relevance is a view shared by many. Edward Luttwak, in his historical analysis of German mountain troops during World War II, suggests that German mountain-infantry tactics represent the single most important historical precedent for the tactical employment of light forces in a mid-to-high intensity European scenario. Because of their reliance on decentralized execution, offensive action and relative mobility, he contends that the tactics employed by German World War II mountain divisions are the logical tactical antecedents for contemporary U. S. light forces.

Japanese Light Infantry in Malaya

Not surprisingly, there is a close similarity between the German mountain infantry approach to warfare and the light infantry tactics successfully practiced by the Japanese in Malaya in 1941-1942. In fact, it can and has been argued that the Japanese derived their flanking and encircling tactics from the German model. Be this as it may, Japanese infantry actions during the Malaya campaign were characterized by fluidity, opportunism, and aggressiveness. In describing the battle for Singapore, in

his book, On Infantry, John A. English contends that the lightly equipped, individually mobile Japanese soldier literally ran circles around his encumbered British counterpart.²³ He attributed the superior mobility of the Japanese infantry to the Japanese soldier's light equipment, fitness, and minimum requirement for sustainment. Further, he attributed the superior offensive capability of the Japanese to determined leadership at the small-unit level, firm discipline and physically tough, self-reliant soldiers capable of effecting long marches and withstanding considerable hardship.²⁴ The Japanese soldier, had in English's view, mastered the fundamental skills of the light infantryman. He was renowned for his proficiency in the bold and imaginative employment of the mortar and machinegun and he was a master at infiltration and camouflage. The Japanese soldier was by every measure eminently prepared to conduct the primitive, infantryman's war that characterized combat actions in the Malayan campaign.

In addition to the superiority of the Japanese infantryman, Japanese tactics during the Malayan campaign were vastly superior to those of their adversaries. The Japanese placed great emphasis on offensive action, agility, and surprise. They believed that decisive results could be achieved by flanking and encirclement because British forces, though ostensibly mobile, lacked true maneuverability and tended to be frontal in their

orientation.²⁵ They sought to achieve surprise through stealth and deception and by fighting at night. They were opportunistic and frequently exploited the methodical nature of British offensive action by conducting spoiling attacks and by encircling British forces seeking to flank or envelop their defensive positions. According to Field Marshal Sir William Slim, Commander of the British Fourteenth Army in the China-Burma-India Theater, the flanking and encircling tactics of the Japanese could be credited with dominating all British operations in Malaya and Burma during the period of British defeat.²⁶ In Defeat Into Victory, his very readable and candid account of action in the China-Burma-India Theater, Field Marshal Slim describes the chief tactical method upon which the success of the Japanese was based. The standard tactic of the Japanese, according to Slim, was to hold British forces defending frontally with a fixing attack, and then to send a mobile force on a wide turning movement around the flank of the defending forces. This mobile force would move unopposed through the jungle and ultimately cut the lines of communication of the defending forces by establishing "roadblocks" on the enemy's supporting road network.²⁷ In so doing the Japanese forced the British to fight in two directions. As British combat power was diverted from forward positions to respond to the threat to British lines of communications, the Japanese increased pressure on the weakened front until it gave way.

This tactic was successfully completed by the Japanese time and again. It was not successfully countered until the British were able to achieve commensurate levels of tactical mobility and proficiency in traditional infantry skills.

Increased tactical mobility, a reaffirmation of basic infantry skills and superior air and firepower eventually enabled the British to take the fight to the Japanese and force them to the defensive. The Japanese infantry, though steeped in the offensive, in time became equally formidable in the defense. As was the case with German mountain-infantry, Japanese infantry commonly used reverse slope defenses and as the war progressed they too established defensive systems in depth with an emphasis on mutually supporting positions.²⁸

Chinese Infantry in the Korean War

If the successes of the German mountain divisions and Japanese infantry during World war II seem to suggest that light infantry forces have utility on the modern battlefield, the experiences of the Korean War serve to confirm it. The People's Liberation Army (PLA) of Communist China was an army composed primarily of light infantry forces and yet it inflicted a staggering defeat upon a technologically superior American field army. The PLA was an experienced army that was equipped with a vital and dynamic doctrine of mobile warfare.²⁹ This doctrine was

based on mobility, deception, and surprise. It called for the rapid concentration of force at the decisive point; the execution of short, violent attacks to overwhelm the enemy; the speedy disengagement of forces; and the prosecution of the attack into the depth of the enemy rear.³⁰

This doctrine was executed by a Chinese soldier that bore an uncanny resemblance to his World War II German and Japanese counterparts. The Chinese infantryman, like his predecessors, was an expert at infiltration and camouflage. Further, he seemed to have an affinity for inhospitable terrain and was extremely adept at turning rugged terrain and adverse weather to his advantage. Like the German mountain-infantryman and the Japanese light infantryman before him, the Chinese infantryman relied on stealth, deception, and a predilection for night fighting to enhance his survivability and to achieve surprise. Lightly equipped and clad, he also was able to achieve great battlefield mobility.

Not surprisingly, the soldiers of the PLA employed tactics not a great deal different from those employed by the Japanese in the Malayan campaign. Like the Japanese, the Chinese employed tactics of envelopment and infiltration to interpose their forces astride enemy lines of communications and retreat. The method varied slightly, however the objective was essentially the same. The Chinese would first commit security forces to probe enemy defensive

positions to determine the location of gaps, flanks, and automatic weapons. These probes would be followed by short, violent attacks directed at the front and flanks of enemy positions. Simultaneously, small groups of infantryman would infiltrate into the depth of the enemy defense, establish "roadblocks" on the supporting road network and disrupt the enemy's withdrawal. The overall objective of this tactic was to surround, isolate, and destroy piecemeal separated enemy elements. It was a tactic that proved successful many times over, as Chinese forces were consistently able to apply superior combat power at vital points in the enemy's flanks and rear.

As was the case with the Japanese, overwhelming air and firepower and altered tactics on the part of United Nations forces, eventually forced the Chinese to the defensive. Much against its will, the PLA was forced to fight a war of position, a form of warfare unsuited to its doctrine of mobility.³¹ Even so, the PLA proved reasonably adept. Like the Germans and Japanese before them, the Chinese, faced with overwhelming firepower superiority, adopted reverse slope defenses and organized a system of defense characterized by strongpoints in depth.

Lessons of History

The lessons of history regarding the employment of light infantry forces, at least as they are extrapolated

from the foregoing examples, seem to suggest that successful operations against technologically superior heavy forces have common themes. It seems that light infantry forces that have conducted successful operations against heavier forces have commonly had the capability to conduct self-contained combat at the small-unit level. Further, they have, as a matter of course, conducted aggressive, offensively oriented operations in all modes of combat. Typically, they have relied on surprise, cunning, deception, and perhaps most importantly, the quick and decisive exploitation of success. These are the fundamental themes that are common to successful light infantry operations and they seem to transcend considerations of nationality, geography, and time.

History also seems to indicate other truths about light infantry operations. One emergent truth appears to be that the principal strength of the light infantry is its suitability for conducting operations in urban, heavily forested, and mountainous terrain. These apparently are the preferred environments of the light infantryman. Further, it seems that the ability of the light infantryman to operate in restrictive terrain is magnified by his superior capability to operate at night and in adverse weather.

Organizational austerity, a relatively high density of leaders, and high levels of self confidence, discipline, individual skill, and unit cohesion have also characterized

successful light infantry units. It is the combination of these qualities that imparts to light infantry operations their distinctive style. This style is characterized by a reliance on superior tactics, not superior firepower. Further, this style seems to be embodied in the light infantryman's predilection for surprise which he typically seeks to achieve through stealth, deception, silence, and foot maneuver. The light infantryman has commonly sought to survive enemy fires through the expert use of terrain, camouflage, deception, and his innate illusiveness. Perhaps the single most common characteristic of successful light infantry forces has been their reliance on offensive action. The operating method of the successful light infantryman has typically been that he seeks the flanks and rear of the enemy, orienting on enemy weaknesses, avoiding enemy strengths, and striking suddenly and violently at unexpected places and times.

III. ANALYSIS

Contemporary Opinion on the Utility of Light Forces in Europe

A number of prominent military observers and writers have suggested that light infantry forces have utility on the contemporary battlefield. Writing in Military Review in December of 1984, David H. Petraeus argues persuasively that

the terrain of the Central European battlefield, a considerable amount of which is either forested, built-up, or heavily compartmented, is certainly suitable for light infantry operations. He further contends that when employed in restricted terrain, light forces may very well be more mobile, survivable, and effective than armored or mechanized forces.

John A. English, in his thoughtful and common sense history of the infantry combat arm from 1866 to the present, suggests that the historical experiences of World War II, the Korean War, and the Vietnam conflict serve to confirm that there continues to be a role for the light infantryman on the modern battlefield.³² He proposes that a major lesson that emerged from both the Allied and Axis experience during World War II was that infantry remained the basic fighting arm in the combat zone.³³ He further contends that events in Korea tended to confirm this experience, as engagements, battles, and campaigns were resolved primarily as a result of the actions of small units of dismounted infantrymen.³⁴ The war in Indo-China and the Vietnam conflict, in his view, were in like fashion decided by the actions of dismounted infantrymen.³⁵ He concludes therefore, that it is likely that the infantryman will remain a key determinant in the outcome of any future conflict.

That the light infantryman is robust and adaptable enough to remain survivable and useful in a mid-to-high-intensity European scenario, though less clear, is nonetheless a view held by many knowledgeable military observers. General Franz Uhle-Wettler, a former commander of the German Armor School and the 5th Panzer Division, is convinced of the utility of the light infantryman on the Central European battlefield. In his book, Battlefield Central Europe, he uses the experiences of the U. S. Army during the Korean War to show that in heavily compartmented, densely forested and built-up terrain, the mobility of mechanized and armored forces is largely negated.³⁶ Citing the actions of the 24th Infantry Division defending against the weakened and much inferior 4th North Korean Infantry Division, he describes a series of events which culminated in the penetration of the American defense. Despite numerical and firepower superiority, the 24th Division required extensive reinforcement before a breakthrough could be prevented, the enemy attack contained and the penetration reduced.³⁷ Uhle-Wettler attributes the American failure in this case and in others during the Korean War to an overreliance on technology, and to a force structure that lacked sufficient infantrymen, was roadbound and too supply dependent.³⁸

General Uhle-Wettler does not dispute the need for armored and mechanized forces; however, he contends that the

current European force structure is dangerously out of balance. He argues that both the German and American armies are fixated on mounted operations in open terrain. He contends that both armies are too supply dependent, have too few fighters, and are ill prepared to conduct battle in over fifty percent of the terrain of Central Europe. He concludes that a balance needs to be struck between heavy and light forces and proposes that the force structure be modified to provide for heavy forces that can conduct mounted operations in open terrain and light forces that can defend in forested and built-up areas.

Similarly, British Brigadier General (Retired) Richard E. Simpkin, noted military lecturer and writer, seeks to disabuse the military community of the notion that the proper way to make war is for "like to fight like".³⁹ Writing in the Infantry Journal in 1984, he contends that the outcome of future conflicts will largely be determined by the actions of light infantrymen, air assault forces, paratroops, and rangers. Further, he argues that light infantrymen, properly equipped and adequately trained can effectively contend with the modern and highly lethal armored and mechanized formations of the Warsaw Pact.

Though a clear consensus remains illusive, there is nonetheless considerable evidence to suggest that light infantrymen, relying on traditional skills and employing imaginative tactics, will prove instrumental in determining

the outcome of the Central European battle. The opinions of many contemporary military thinkers, the historical precedents of World War II, and the distinctive geography of Germany all seem to suggest the continued utility of the light infantryman on the modern European battlefield.

Employment Doctrine for Light Forces

A great deal of evidence suggests that light infantry forces have utility and are survivable on the contemporary European battlefield. If such is the case, one must then ask how strategically mobile light forces can best be employed to enhance the combat capability of European based heavy forces. Unfortunately, the U. S. Army's experience in augmenting forward deployed heavy forces with strategically mobile light forces is very limited. Further, U. S. doctrine governing the tactical employment of light forces is evolving. As a result, the doctrine regarding the employment of light forces by heavy formations is far from comprehensive. The doctrine as it is currently framed, in FC 71-101, Light Infantry Division Operations, describes various employment options for the light infantry division. These include employing the division as it is organized; augmenting the division after deployment; augmenting the division before deployment; designating selected items of pre-positioned equipment in theater for issue to the division, and tailoring the division to meet

theater-specific requirements.⁴⁰ The last of these options includes providing subordinate brigades and battalions of the light infantry division to forward deployed divisions for employment in terrain suitable for infantry. It is within the context of this option, that this study will examine the employment of light forces.

As suggested earlier, doctrine regarding the employment of light forces by heavy formations is very cursory. The distinctive organization and armament of light forces, as well as the experiences of World War II and the Korean War, suggest that light forces must be employed differently than heavy forces. Current doctrine, in fact, acknowledges the distinctiveness of light forces. Further, it recognizes that light forces must compensate for their lack of battlefield mobility and firepower by employing tactics that maximize depth and dispersion and capitalize on decentralized execution at the small-unit level. Current doctrine however, is somewhat wanting with regard to describing how light forces apply the rhetoric of depth, dispersion, and decentralized execution to the Central European battlefield. Nonetheless, historical precedents seem to suggest that the generic notions of depth, dispersion, and decentralized execution can be translated to the tactical realities of the Central European battlefield in a variety of ways.

At the outset, however, it is important to reaffirm that the historical precedent overwhelmingly suggests that light infantry forces should be employed in their preferred environment. Fortunately, restrictive terrain in the form of densely forested, heavily contoured, and urbanized areas can be found in virtually every brigade sized sector within the CENTAG area of responsibility. Even a cursory examination of the terrain in the vicinity of the Inter-German border suggests that light infantry forces could be employed in the Knollgebirge and Hohe Rhon on either side of the Fulda Gap, in the Hassberg adjacent to the Meiningen Approach and in the Frankenwald and the Fichtergebirge that dominate the Hof Corridor.

Determined infantrymen, imaginatively employed, and properly augmented, can pose a variety of threats to attacking forces. The most fundamental and historically valid method of employment is to task light infantry forces to defend in an assigned sector that encompasses restrictive terrain. On the contemporary battlefield, as on battlefields of the past, light infantry forces defending in and from close terrain, at night and in adverse weather have a considerable potential for disrupting the attacker's tempo, disassembling his combined arms teams, and denying him the initiative. If the historical precedent remains valid, modern mechanized forces will be hard pressed to dislodge light infantry forces from close terrain unless

they are prepared to commit considerable effort. It is likely therefore, that mechanized forces will seek to bypass such terrain and remain on high-speed avenues. In so doing, the enemy will be compelled to do battle with heavy forces in open terrain where Abrams/Bradley equipped U. S. forces have significant advantages in terms of firepower, range, armor protection, agility, and night fighting capability.

Other advantages are likely to accrue to the heavy force commander who employs augmenting light forces in restricted terrain. Employed in restricted areas, afforded protection by cover and concealment, light infantry forces also provide a base for surveillance and target acquisition activities. Equally important, they provide a "platform" from which offensive operations can be conducted against the flanks and rear of enemy mechanized forces.

Historically, tactical successes have been achieved by the complementing actions of static and mobile forces. It would seem sound, therefore, that light infantry forces could be tasked to retain "specified" terrain so as to provide the heavy force commander a variety of counterattacking opportunities. The Battle of El Alamein in World War II is illustrative of this tactic on a grand scale and is a classic example where light infantry forces were able to hold terrain and wear down a heavy assault, thereby permitting heavy forces to take advantage of their mobility and armored protection to complete the destruction of the

attacking enemy force. At El Alamein, General Bernard Montgomery, Commander of the British Eighth Army, allowed German General Irwin Rommel to attack and penetrate to a strongpoint at Alam Halfa. The German attack was worn down and blunted against this strong defensive position and then counterattacked successfully by mobile British forces.⁴³

Historical precedents also suggest that light infantry forces can be employed to free armored/mechanized forces that are not heavily engaged. Given the right terrain, light infantry forces can move into defensive positions behind heavy forces opposed by a "fixing" force or holding attack. The heavy force can then conduct a rearward passage through the light force and be employed elsewhere on the battlefield. In his North African Campaign during the early years of World War II, Erwin Rommel consistently employed Italian infantry forces in such a fashion so as to enable him to mass his armored and mechanized formations for offensive action.

In addition to the various methods of employment described above, light infantry forces can also be employed to conduct specialized operations. These include, but certainly would not be limited to, a defense of a defile, a defense of a riverline, or the execution of a "spoiling" attack.

Light Infantry Tactics on the Modern Battlefield

In executing the broad range of missions that the heavy force commander may task light infantry forces to perform, light forces must exploit their strengths and compensate for their weaknesses. The basic problem confronting light infantry forces in executing a defense as a part of a heavy force is to overcome the inherent weakness in positional defense by aggressive action at the tactical level. To be both survivable and effective, light infantry forces must exploit defensively the protective qualities of restricted terrain and yet retain the capability to operate offensively against attacking formations.

The historical precedents of American, German, and Chinese light infantry seem to suggest that light infantry forces should fight in depth and at close range, using mutually supporting defensive positions and limited local ground attacks. They should seek to survive artillery through the use of terrain, dispersion, camouflage, and by the preparation and occupation of positions in depth. They should fight armored vehicles from the flanks and rear and at close range. They should attempt to draw the enemy into their defensive areas, block bypass routes with obstacles and defensive strongpoints, and force the enemy to commit dismounted forces to eliminate resistance. In so doing, they create opportunities to attack compressed formations

with artillery, close air support, and offensive action by mobile armored and mechanized forces.

In his evaluation of the strategic utility of U. S. light divisions, Edward Luttwak proposes a system of defense that seeks to maximize the inherent strengths of light forces. He contends that light infantry forces opposing mechanized formations are ill-served by linear-positioned tactics and the dispositions they imply.⁴⁴ He suggests that light forces should adopt a tactical scheme that compels the enemy to enter into restrictive terrain. There, the enemy's ability to acquire targets is substantially decreased and attendantly, the effectiveness of his direct fire weapons is reduced. Conversely, the short-range anti-tank weaponry of light forces can be effectively brought to bear.

It is Luttwak's notion that the defense should include two separate dimensions; a tactically-offensive one to effectively deny passage of mechanized forces along vehicular avenues by blocking action and counterattacks; and a tactically-defensive dimension to defeat enemy incursions into restricted areas with the minimum expenditure of forces.⁴⁵

He suggests that the defense of restricted areas be conducted by establishing strongpoints laid out in depth and organized for all-around defense.⁴⁶ He considers the network of strongpoints essentially passive however, and acknowledges the need for an active element. He envisions

that element to be armor-hunting teams, equipped with short-range AT weapons. These teams would emerge from covered and concealed "hide" positions established in depth, and strike on the flanks and rear of the armored and mechanized vehicles that accompanied enemy forces into the restrictive terrain. The combination of light forces, trained to fight isolated, confidently, and in all directions from concealed positions, and armor-hunting teams trained to attack quickly and at close range, will, according to Luttwak, force the enemy to disengage or commit additional dismounted forces. Either response will cause a disruption in his attack and force him from his timetable.⁴⁷

As previously suggested, the tactically-offensive dimension of the defense focuses on the denial of vehicular avenues to mounted formations. According to Luttwak, this facet of the defense requires highly mobile tactics. Supported by heavy engineer assets, light forces establish obstacles in depth astride the principal avenues. Each will be defended briefly by anti-armor teams. The time gained by the non-persistent defense of a series of obstacles provides the opportunity to assemble large light infantry strike forces. These forces move over concealed routes and position themselves parallel to the enemy's axis of advance. They attack from covered terrain, supported by artillery, attack helicopters, and close air support, to destroy enemy forces unable to maneuver or bring their firepower to bear.

After the attack, these forces return to restrictive terrain, reoccupy their positions and prepare for future action.⁴⁸

The sophistication and complexity of modern battle suggests that the success of the contemporary defense is linked to the notion of dismantling the enemy's combined arms capability. The defense must be conducted so as to isolate the elements of the enemy's combined arms team and then defeat them in detail. This is not a simple task. It entails dispersing the enemy's reconnaissance screen, separating his tanks from his infantry, fragmenting his artillery, and the selective destruction of his air defense and command and control assets.

In the execution of the defense, light infantry forces operating in and from close terrain can do much to disassemble the attacker's combined arms team. It can separate infantry from tanks by calling for and adjusting artillery fires that degrade movement rates and damage and/or destroy the externally mounted sappers on BMP's. With the discriminating use of FASCAM, it can pin or canalize infantry forces. It can infiltrate to attack and neutralize supporting artillery and to attrit air defense assets. Lastly, through the use of infiltrators and/or stay-behinds, it can, on a selective basis, destroy leaders and fire support vehicles to degrade the enemy's capability to maneuver and/or adjust/mass artillery fires.

As previously suggested, light infantry forces can be employed in a wide variety of ways to support a defending heavy force. Regardless of the manner of its employment however, control of light infantry forces must necessarily be decentralized. Success will depend largely on small unit leaders taking innovative and aggressive responses to fleeting opportunities. Moreover, it will depend on the ability of the light infantry force to compensate for its firepower shortages and other limitation by superb execution of specialized tactics and techniques.

IV. CONCLUSIONS

Committed in the right situations and employed with skill, light infantry forces can significantly enhance the defensive capabilities of heavy forces forward deployed in Europe. The terrain variations and urban sprawl that characterize the Central European battlefield militates against total reliance on mobile, armored/mechanized forces. The dismounted infantryman will very likely remain a force to be reckoned with in the forests, mountains, and urban areas of Central Europe and he will play a vital, if not dominant, role in determining the outcome of the Central European battle.

With his traditional skills, the light infantryman remains the most resilient and versatile of all arms. It is

this innate resilience and versatility that impart to light forces their great value. Because they can use a variety of maneuver means, have a strong capability to conduct night operations and can be augmented in a variety of ways, light forces can magnify the capabilities of heavy forces.

A light infantry force presents a broad range of employment options to a heavy force commander. In the close battle, the light infantry battalion can be employed in forested, urban, or heavily compartmented terrain to canalize enemy forces into areas where they are vulnerable to attack by heavy forces. Light infantry force can also be employed to control restrictive terrain in the area of the FEBA to provide a base for surveillance and target acquisition activities as well as serve as a platform from which offensive operations can be conducted against the flanks and rear of enemy formations. In close operations, light infantry forces can also be employed to cover the flanks of defending heavy forces, defend a defile and/or riverline and conduct spoiling attacks.

In the covering force area the light infantry battalion can add depth to the battle area by controlling specified terrain and by creating counterattacking opportunities forward of the FEBA. In support of the brigade commander's deep battle, light infantry forces, either by infiltration or air assault, can be introduced into the enemy's rear. Here they can disrupt enemy lines of communications,

interdict the advance of second echelon forces, and cause the enemy to divert combat power from the main battle area. As reserves, light infantry forces can block enemy penetrations, reinforce committed forces, relieve depleted forces, and react to enemy threats in the rear area.

Regardless of how light infantry forces might be employed, their greatest value lies in their ability to free armored and mechanized forces for offensive action. They free Bradley-equipped infantry forces to be employed in the covering force area, to delay in designated sectors, to counterattack with tanks, to execute spoiling attacks with tanks and to conduct economy of force operations. They also save armor forces from attrition and free them to counterattack so that they can maximize the advantages inherent in their armor protection, speed, agility, and firepower.

Light infantry forces are capable of performing a broad range of missions. They must, however, compensate for their firepower shortages and lack of armored protected mobility with specialized tactics and techniques. They must possess consummate skill in camouflage, the use of terrain, and countermobility operations. They must rely on stealth, deception, and surprise to fight the enemy on his flanks and rear. They must seek engagements in the close fighting terrain of villages, forests, swamps, and ravines. They must fight at night, in periods of limited visibility, and

in adverse weather. Their tactical repertoire must include infiltrations, ambushes, and raids. Lastly, they must maximize their single greatest asset -- the independent-minded, resilient American infantryman.

There is little question that light infantry forces can greatly enhance the capability of heavy forces. That they must be employed in their preferred environment so that they can maximize their strengths while exploiting enemy weaknesses is fundamental. However, efforts to enhance their battlefield mobility, survivability, and lethality must be resisted for fear that the by-product is a light force that is too encumbered to be mobile in restricted terrain and too vulnerable to survive in open terrain. Light forces, discriminately employed to exploit their unique capabilities, can greatly improve the possibility of heavy forces conducting a successful defense on the Central European battlefield.

ENDNOTES

1. John A. Wickham, Jr., "Leadership Is Key In Coping with Wide Threat Spectrum," Army, (October 1985), p. 29.
2. Ibid., p. 29.
3. U. S. Department of the Army, Light Infantry Division Operations, FC 71-101, (Washington, D. C.: U. S. Government Printing Office, July 1984), p. 1-1.
4. Franz Uhle-Wettler, Battlefield Central Europe: Danger of Reliance on Technology By the Armed Forces, (Leavenworth, KS: U. S. Government Printing Office, 85-2039), p. 3.
5. David N. Petraeus, "Light Infantry in Europe: Strategic Flexibility and Conventional Deterrence," Military Review, (December 1984), p. 40.
6. Ibid., p. 40.
7. Uhle-Wettler, Battlefield Central Europe, p. 43.
8. Ibid., p. 28.
9. Ibid., p. 60.
10. William E. Depuy, "Light Infantry: Modern Battle's Essential Arm," Army (June 1985), p. 32.
11. Howard G. Crowell and Jared Bates, "Heavy-Light Connection: Division," Infantry (July-August 1984), p. 18.
12. Edward N. Luttwak, Historical Analysis and Projection for Army 2000, The United States Army of the Second World War: The Light Divisions, (TRADOC Contract DAGT-58-82-C-0055, March 1983), p. preface.
13. Ibid., p. 1.
14. Ibid., p. 11.
15. Ibid., p. 11.
16. Ibid., p. 11.
17. Ibid., p. 42.

18. Edward N. Luttwak, Historical Analysis and Projection for Army 2000, The United States Army of the Second World War: The 10th Mountain Division, (TRADOC contract DABT-58-82-C-0055, March 1983), p. ii.
19. Ibid., Luttwak, The Light Divisions, p. 47-48.
20. Edward N. Luttwak, Historical Analysis and Projection for Army 2000, German Army of the Second World War: The Mountain Troops (TRADOC Contract DABT-58-82-C-0055, March 1983), p. i.
21. Ibid., p. 1.
22. Ibid., p. 1.
23. English, On Infantry, p. 157.
24. Ibid., p. 162.
25. Ibid., p. 160.
26. Ibid., p. 160.
27. Sir William Slim, Defeat Into Victory, (London: Cassell and Company LTD; 1956), p. 119.
28. English, On Infantry, p. 161.
29. Ibid., p. 169.
30. Ibid., p. 169.
31. Ibid., p. 175.
32. John A. English, On Infantry (New York: Praeger; 1981), p. 185.
33. Ibid., p. 185.
34. Ibid., p. 185.
35. Ibid., p. 185.
36. Uhle-Wettler, Battlefield Central Europe, p. 5-8.
37. Ibid., p. 5.
38. Ibid., p. 8.

39. Richard E. Simpkin, "Tank Hunting," Infantry (July-August 1984), p. 23-27.
40. Light Infantry Division Operations, FC 71-101, p. 1-4.
41. John R. Galvin, "Heavy-Light Connection: Corps," Infantry (July-August 1984), p. 13.
42. Ibid., p. 13.
43. Ibid., p. 13.
44. Edward R. Luttwak, Strategic Utility of U. S. Light Divisions, A Systematic Evaluation (TRADOC Contract DABT60-84-C-0099, August 1985), p. 124.
45. Ibid., p. 124.
46. Ibid., p. 125.
47. Ibid., p. 125.
48. Ibid., p. 129-130.

BIBLIOGRAPHY

BOOKS

- Dupuy, Trevor N. The Evolution of Weapons and Warfare, Hero Books, Fairfax, Virginia, 1984.
- English, John A. On Infantry, Praeger, New York, 1981.
- House, Jonathan M. Towards Combined Arms Warfare: A Survey of 20th Century Tactics, Doctrine, and Organization, Combat Studies Institute, U. S. Army Command and General Staff College, Fort Leavenworth, Kansas, August 1984.
- Latimer, John C. Considerations for Defense of Urban Terrain by Light Forces, U. S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1984.
- Miksche, Ferdinand O. Attack: A Study of Blitzkrieg Tactics, Random House, New York, 1942.
- Slim, Sir William. Defeat Into Victory, Cassell and Company LTD, London, 1956.
- Strachan, Hew. European Armies and the Conduct of War, George Allen & Unwin, London, 1983.
- Uhle-Wettler, Franz. Battlefield Central Europe: Danger of Overreliance on Technology by the Armed Forces, U. S. Government Printing Office, Fort Leavenworth, Kansas, 1985.
- Van Creveld, Martin. Command, U. S. Army Command and General Staff College, Fort Leavenworth, Kansas.
- Von Mellenthin, F. W. and Stalf, R. H. S. NATO Under Attack, Duke University Press, Durham, North Carolina, 1984.
- 5th Infantry Division, U. S. Army, Panzergeradiers (Rote Teufel), 1983.

ARTICLES AND PERIODICALS

- Canby, Steven L. "Light Infantry in Perspective," Infantry, July-August 1984, p. 78-31.

Crowell, Howard G. and Bates, Jared L. "Heavy-Light Connection: Division," Infantry, July-August 1984, pp. 15-18.

Depuy, William E. "Light Infantry: Modern Battle's Essential Arm," Army, June 1985, p. 26-41.

Doughty, Robert A. "The Evolution of U. S. Army Tactical Doctrine, 1946-76," Leavenworth Papers, Combat Studies Institute, U. S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1979.

English, J. A. "Thinking About Light Infantry," Infantry, November-December 1984, p. 19-25.

Galvin, John R. "Heavy-Light Connection: Corps," Infantry, July-August 1984, pp. 10-14.

Huddleston, Louis D. "Light Infantry Division: Azimuth Check," Military Review, September 1985.

Lupfer, Timothy T. "The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War," Leavenworth Papers, Combat Studies Institute, U. S. Army Command and General Staff College, Fort Leavenworth, Kansas, July 1981.

Luttwak, Edward. Strategic Utility of U. S. Light Divisions, A Systematic Evaluation, Contract #DDBT60-34-C-0099, 1 August 1985.

Luttwak, Edward N. Historical Analysis and Projection for Army 2000, German Army of the Second World War: The Mountain Troops, TRADOC Contract DABT-58-82-C-0055, March 1983.

Luttwak, Edward N. Historical Analysis and Projection for Army 2000, The United States Army of the Second World War: The Light Divisions, TRADOC Contract DABT-58-82-C-0055, March 1983.

Luttwak, Edward N. Historical Analysis and Projection for Army 2000, The United States Army of the Second World War: The 10th Mountain Division, TRADOC Contract DABT-58-82-C-0055, March 1983.

McMichael, Scott R. "Proverbs of the Light Infantry," Military Review, September 1985, p. 22-28.

Motley, James. "Heavy-Light Forces, Assessing the Challenge," Infantry, January-February 1985, pp. 13-14.

- Newell, Clay A. "Heavy-Light Forces: Divisions or Brigades," Infantry, January-February 1985, pp. 12-13.
- Oliver, Edward L. "Infantry Division (Light)," Infantry, March-April 1984, pp. 14-16.
- Petraeus, David H. "Light Infantry in Europe: Strategic Flexibility and Conventional Deterrence," Military Review, December 1984, pp. 35-55.
- Simpkin, Richard E. "Tank Hunting," Infantry, July-August 1984, p. 23-27.
- Wass de Czege, Huba. "Three Kinds of Infantry," Infantry, July-August 1985, pp. 19-22.
- Wickham, John A., Jr. "Leadership Is Key in Coping with Wide Threat Spectrum," Army magazine, October 1985, pp. 22-42.
- Wood, Jack B. "Heavy-Light Connection: Brigade," Infantry, July-August 1984, pp. 19-22.

DOCUMENTS

- U. S. Army Field Manual 100-2-1, The Soviet Army: Operations and Tactics, July 1985.
- U. S. Army Field Manual 100-2-2, The Soviet Army: Specialized Warfare and Rear Area Support, July 1984.
- U. S. Army Field Manual 100-5, Operations, 20 August 1982.
- U. S. Army Field Circular 71-100, Armored and Mechanized Division and Brigade Operations, May 1984.
- U. S. Army Field Circular 71-101, Light Infantry Division Operations, July 1984.

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